Broadband Internet Router with a Ethernet Wide

Broadband

# USER'S MANUAL

## COMPEX NETPASSAGE SERIES

# NetPassage 15-C

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Manual number : U-0352-V1.2C

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Manual Revision by Hin
Manual Number:  U-0352-V1.2C      Version 1.2December 2002

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## FCC Notice

This device has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This device generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this device does cause harmful interference to radio or television reception, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Connect the computer into an outlet on a circuit different from that to which the receiver is connected.
- Increase the separation between the computer and receiver.
- Consult the dealer or an experienced radio/TV technician for help.

**Caution**: Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the equipment.

**FCC Compliance Statement:** This device complies with Part 15B of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference, and
- This device must accept any interference received, including interference that may cause undesired operation.


## Declaration of Conformity

Compex, Inc. declares the following:

Product Name: **Broadband Internet Gateway** Model No.: **NetPassage 15-C** conforms to the following Product Standards: Radiated Emission Standards: FCC: 47 CFR Part 15, Subpart B, ANSI C63.4-1992; 47 CFR Part 15, Subpart C (Section 15.247), ANSI C63.4-1992. ;ETSI EN 300 328-2: July 2000;EN55022. Conducted Emission Standards: FCC Part 15 Class B;ETS 300 826: Nov. 1997.;EN55022 conducted emission Immunity Standards: EN 55024 (FOR CE) Low Voltage Directive: EN 60 950:1992+A1: 1993+A2: 1993+A3; 1995+A4; 1996+A11: 1997 (FOR CE).**Therefore, this product is in conformity with the following regional standards**:

**FCC Class B** - following the provisions of FCC Part 15 directive;

**CE Mark** - following the provisions of the EC directive.

This Class B digital apparatus complies with Canadian ICES-003.

18<sup>th</sup> December 2002

Shi Jia Xiang
R & D Manager

**Technical Support Information**

The warranty information and the registration form are found in the Quick Install Guide.
For technical support, you may contact COMPEX or its subsidiaries. For your convenience, you may also seek technical assistance from the local distributor, or from the authorized dealer/reseller that you have purchased this product from. For technical support by email, write to support@compex.com.sg.

Refer to the table below for the nearest Technical Support Centers:

| Technical Support Centers | |
|---|---|
| Contact the technical support center that services your location. | |
| **U.S.A., Canada, Latin America and South America** | |
| ✉ Write | **Compex, Inc.**<br>4051 E. La Palma, Unit A<br>Anaheim, CA 92807, USA |
| ☎ Call<br>🖨Fax | Tel:      +1 (714) 630-7302 (8 a.m.-5 p.m. Pacific time)<br>Tel:      +1 (800) 279-8891 ext.122 Technical Support<br>Fax:     +1 (714) 630-6521<br>BBS:    +1 (714) 630-2570 (24-hour access) |
| **Europe** | |
| ✉ Write | **ReadyLINK Networktechnology GmbH**<br>Albert Einstein Straβe 34 / M21<br>63322 Rödermark, Germany |
| ☎ Call<br>🖨 Fax | Tel:      +49 (0) 6074 - 98017 (8 a.m.-5 p.m. local time)<br>Fax:     +49 (0) 6074 - 90668<br>BBS:    +49 (0) 6074 - 93974 (24-hour access)<br>Email:readylink@compex.com.sg |
| **Asia, Australia, New Zealand, Middle East and the rest of the World** | |
| ✉ Write | **Compex Systems Pte Ltd**<br>135, Joo Seng Road #08-01, PM Industrial Building<br>Singapore 368363 |
| ☎ Call<br>🖨 Fax | Tel:      (65) 6286-1805 (8 a.m.-5 p.m. local time)<br>Tel:      (65) 6286-2086 ext.199 Technical Support<br>Fax:     (65) 6283-8337<br>BBS:    (65) 6282-8854 (24-hour access) |
| ***Internet access/*** | E-mail:        **support@compex.com.sg**<br>FTPsite:      **ftp.compex.com.sg** |
| ***Website:*** | **http://www.cpx.com** *or* **http://www.compex.com.sg** |

## About this Document

The product described in this document, Compex NetPassage 15-C is a licensed product of Compex Systems Pte Ltd. This document contains instructions for installing, configuring and using the NetPassage 15-C. It also gives an overview of the key applications and the networking concepts with respect to the product.

This documentation is for both Network Administrators and the end user with basic understanding and knowledge in the networking structure and protocols.
A few assumptions had been made, such as the host computer has already been installed with TCP/IP and already up & running and accessing the Internet. Procedures for Windows 95/98/ME/2000/XP operating systems are included in this document. However, for other operating system, you may need to refer to your operating system's documentation for networking.

**Please take note that this User's Manual is written based on NetPassage 15-C Firmware Release 2.79 build 1201.**

## Universal Configuration (uConfig) software

## Conventions

This document uses special conventions to present the information clearly. Please take note of the conventions used below.

| NOTE | |
|------|---|
| **NOTE** This section will consist of important features or instructions | |

| CAUTION | |
|---------|---|
| **CAUTION** This section concerns risk of injury, system damage or loss of data | |

| WARNING | |
|---------|---|
| **WARNING** This section concerns risk of severe injury | |

References on Menu Command, Push Button, Radio Button, LED and Label appear in **Bold**. For example, "Press the **Save** button"

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# Table of Contents

# Chapter 1   Product Overview



**Figure 1-1 NetPassage 15-C**

## 1.1   Introduction

Compex NetPassage 15-C is a Broadband Internet Gateway supporting external Cable/ADSL modem for broadband Internet sharing. It is integrated with a 4-port 10/100Mbps Fast Ethernet Switch and can seamlessly distribute Internet access to the wired networks.

With the unique Parallel Broadband, NetPassage 15-C delivers scalable Internet bandwidth to your network, supporting Load Balancing and Fail-Over Redundancy with multiple broadband channels.

In addition, Compex NetPassage 15-C is also designed with advanced features such as Virtual Server, Static Address Translation, 8e6 Internet Filtering, Time-based Access Management, IP Packet Filtering, Remote Management and optional SPI Firewall have been designed on NetPassage 15-C. It is the perfect Internet solution for your home and office.

## 1.2   Key Features

Compex NetPassage 15-C, the Broadband Internet Gateway, is designed with the following features:

### Broadband Internet Sharing

Compex NetPassage 15-C comes with a RJ45 Ethernet WAN port supporting external Cable or ADSL modem, sharing a single Cable/ADSL Internet subscription with multiple users.

### Integrated 4-port 10/100Mbps Switch

Integrated with a 4-port 10/100Mbps Fast Ethernet Switch, Compex NetPassage 15-C provides an immediate solution for four users on private LAN switching. With the auto-crossover mechanism, Hubs or Switches can be cascaded to NetPassage 15-C easily to support more users.

### Parallel Broadband

Parallel Broadband, uniquely found on NetPassage series broadband routers, delivers scalable Internet bandwidth to your office network. Multiple units of Compex NetPassage 15-C may be installed in your network, enabling Load Balancing and Fail-Over Redundancy with multiple broadband channels.

### Built-In DHCP Server

Compex NetPassage 15-C is integrated with a DHCP server, dynamically assigns IP address, gateway information and DNS server address to your PCs in the wired and wireless networks. Simply configure your PCs to dynamically obtain IP addresses.

### Virtual Server

Compex NetPassage 15-C supports Virtual Server that enables hosting of Internet servers in your private network. Virtual Server based on Port Forwarding and IP Forwarding may be defined on NetPassage 15-C.

### Time-based Access Management

With Time-based Access Management, the network administrators may define administrative function on NetPassage 15-C, restricting certain PCs to access to the Internet during a pre-defined time.

### IP Packet Filtering

The network administrators may also define functions on NetPassage 15-C to filter undesired Internet applications in the private network based on the TCP/UDP ports.

### Web-based Configuration Interface

Compex NetPassage 15-C is integrated with an embedded HTTP server, facilitating the configuration process with a user-friendly web-based interface. Simply connect to NetPassage 15-C with a JAVA-enabled web browser and complete the configuration process in just a few minutes.

### Remote Management

Remote Management may be activated on NetPassage 15-C, enabling the network administrator to manage the Broadband Internet Gateway over the Internet with a HTTP or TELNET session.

**Load Balancing & Fail-Over Redundancy with Parallel Broadband**

Designed with the unique **Parallel Broadband** technology, Compex NetPassage 15-C provides scalable Internet bandwidth with Load Balancing and Fail-Over Redundancy. If multiple units of Compex NetPassage 15-C are installed in the network, the Internet traffic will be balanced across multiple broadband channels, delivering virtually a combined aggregated bandwidth while functioning as Fail-Over Redundancy.
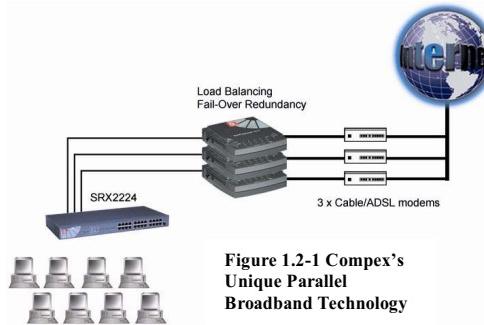


**Figure 1.2-1 Compex's Unique Parallel Broadband Technology**

**SPI Firewall**

Compex NetPassage 15-C is specially designed with firewall function to prevent unauthorized access to or from the network. All messages entering or leaving Compex NetPassage 15-C will pass through the firewall. It will then examine each message and block those that do not meet the specified security criteria. The firewall can be activated by purchasing an activation key from www.compex.com.sg or www.cpx.com website.

**8e6 Internet Filtering**

8e6 Technologies is the original developer of X-Stop filtering solutions which has been a pioneer in Internet Access Management technology. It develops customized Internet Access Management network applications for businesses, ISPs and the education market. Internet Filtering is important in this technological society as it helps to secure others from accessing to certain websites, such as accessing to undesirable content website in school or library, etc.

## 1.3 Package Contents

Your NetPassage 15-C retail package contains the following items:

- 1 x NetPassage 15-C
- 1 x External Power Adapter (3.3$V_{DC}$, 3A)
- 1 x Quick Install Guide with Warranty Registration Form
- 1 x Product CD (consist of User's Manual, Firmware Recovery Tool & Utility)

## 1.4 Panel Views & Descriptions

### 1.4.1 Panel Views
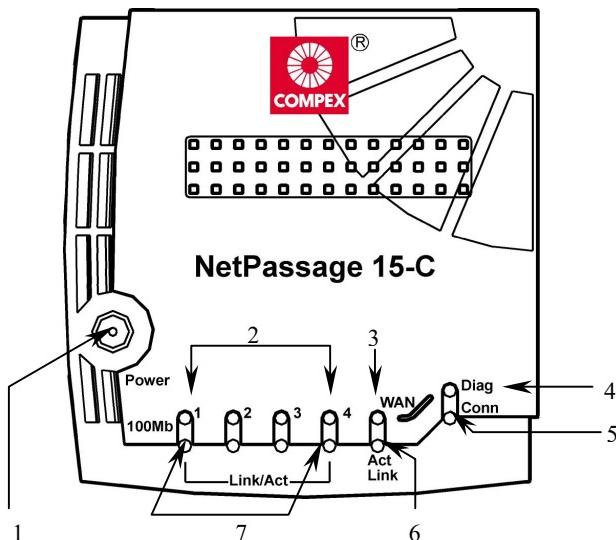


**Figure 1.4.1-1 Top View**
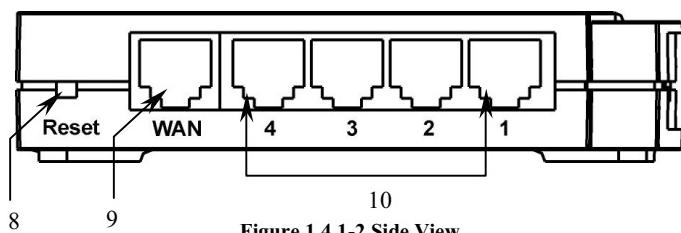


**Figure 1.4.1-2 Side View**
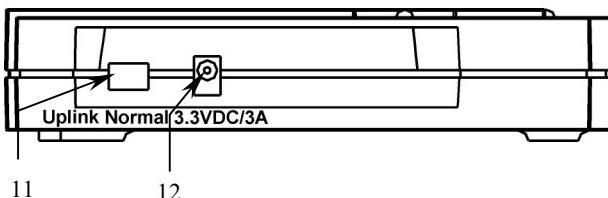


**Figure 1.4.1-3 Side View**

### 1.4.2 Panel Description

| Index | Indicator | Description |
|-------|-----------|-------------|
| 1 | Power LED (Green) | LED lights up steadily indicate that the power is applied to the router. |
| 2 | LAN 100Mb LED (Green) | LED lights up steadily indicate that the respective LAN connection is at 100Mbps. LED lights off indicate that the respective LAN connection is at 10Mbps. |
| 3 | WAN 100Mb LED (Green) | LED lights up steadily indicate that the respective WAN connection is at 100Mbps. LED lights off indicate that the respective WAN connection is at 10Mbps. |
| 4 | Diag LED (Green) | Firmware diagnostic LED. |
| 5 | Conn LED (Green) | LED blinks when WAN disconnects or not connected to the broadband service. |
| 6 | WAN Link LED (Green) | LED blinks indicate that the WAN connection has activity. LED lights up steadily indicate that there is a good cable connection to the respective WAN ports. |
| 7 | LAN Link/Act LED (Green) | LED blinks indicate that the LAN connection has activity. LED lights up steadily indicate that there is a good cable connection to the respective LAN ports. |
| 8 | Reset button | Reset NP15-C to factory default |
| 9 | WAN Port | 10Base-T Port connects to cable modem or xDSL modem. |
| 10 | Local LAN ports | Up to a maximum of 4 10Base-T/ 100Base-TX Ethernet devices can be directly connected to the router. |
| 11 | Uplink Selector | Dip Switch for Uplink mode |
| 12 | 3.3 V/3A Power Connector | Accept 3.3V DC/3A input. |

## 1.5 Technical Data

### 1.5.1 NetPassage 15-C Specifications

| | | |
|---|---|---|
| ♦ | **Industry Standards** | Complies with:<br>■ IEEE 802.3 10Base-T,<br>■ IEEE 802.3u 100Base-TX,<br>■ IEEE 802.3x Flow Control<br>■ CE Mark, FCC Class B, Gost, C-Tick, UL |
| ♦ | **WAN Interface** | ■ One RJ45 Ethernet port (for external Cable/ADSL modem) |
| ♦ | **WAN Type** | ■ Static IP<br>■ Dynamic IP<br>■ PPP Over Ethernet (PPPoE)<br>■ RAS |
| ♦ | **LAN Interface** | ■ Integrated 4-port 10/100Mbps Switch |
| ♦ | **IP Addressing** | All Classful/Classless Subnets |
| ♦ | **Built-In DHCP Server** | Yes |
| ♦ | **DHCP Reservation** | By MAC Address |
| ♦ | **NAT Firewall** | Yes |
| ♦ | **Load Balancing** | Parallel Broadband |
| ♦ | **Fail-Over Redundancy** | Parallel Broadband |
| ♦ | **Virtual Server** | Based on Port Forwarding & IP Forwarding |
| ♦ | **Time-based Access Management** | Yes |
| ♦ | **IP Packet Filtering** | ■ By TCP Port<br>■ By Source IP |
| ♦ | **IP Routing** | Static & Dynamic Entry |
| ♦ | **Routing Protocol** | RIP1 & RIP2 |
| ♦ | **VPN Client Pass-Through** | ■ PPTP<br>■ IPSec |
| ♦ | **Microsoft NetMeeting** | Yes |
| ♦ | **Configuration Interface** | ■ Web-based Configuration Interface<br>■ TELNET |
| ♦ | **Remote Management** | HTTP & TELNET Session |
| ♦ | **Profile Backup & Restore** | Yes |
| ♦ | **Firmware Upgrade** | Yes |
| ♦ | **Environmental Requirement**<br>**Temperature**<br><br>**Humidity** | <br>Operating: 0ºC to 40ºC<br>Storage: -20ºC to 70ºC<br>Operating: 10% to 80% RH<br>Storage: 5% to 90% RH |
| ♦ | **Physical Dimensions** | 122mm x 119mm x 26mm (LxWxH) |

# Chapter 2    Getting Started

Compex NetPassage 15-C may be used in different application. It is integrated with an embedded HTTP server providing a user-friendly web-based configuration interface to ensure fast and easy configuration process for these applications. This chapter provides the information on how to connect to the configuration interface, how to setup the hardware for configuration and operation.

## 2.1    Hardware Setup

Compex NetPassage 15-C may be installed in different applications. This section summarizes the hardware setup for each application.

### 2.1.1    Distributing Broadband Internet Access to Fast Ethernet Network



**Figure 2.1.1-1 NetPassage 15-C distributes broadband Internet access to the Fast Ethernet segment**
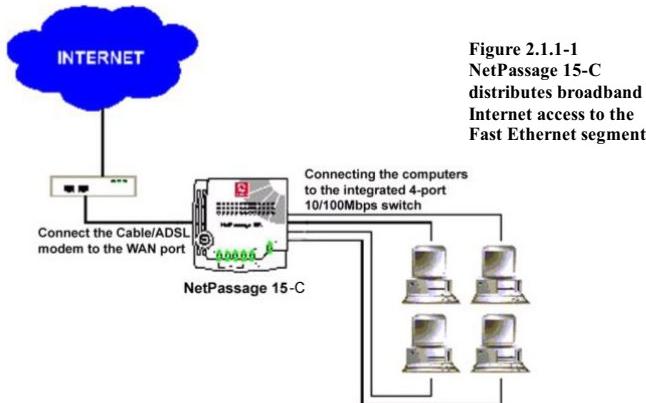
In this hardware setup, 4 computers are connected to the integrated 4-port 10/100Mbps Fast Ethernet Switch of NetPassage 15-C. These computers are able to share a single broadband Internet account as well as their resources. You may also cascade the NetPassage 15-C to another Hub or Switch to support more users. The Fast Ethernet ports of NetPassage 15-C are designed with auto-crossover mechanism that can be easily connected to another Hub or Switch regardless of the orientation of the UTP cable (straight or crossover).

## 2.2    Using Universal Configuration (uConfig) Program to access to Internet

Compex NetPassage 15-C supports Universal Configuration (uConfig) that enables you to connect to the Web-based Configuration Interface effortlessly. There is no need to fiddle with the TCP/IP configuration of your computer. Compex NetPassage 15-C comes with a uConfig agent integrated and a window-based utility UCONFIG.EXE.

To connect to Compex NetPassage 15-C's Web-based Configuration Interface via Universal Configuration (uConfig):

1.  Save the file **UCONFIG.EXE** from the Product CD into your preferred directory.

2.  Launch the Universal Configuration by double-clicking the file **UCONFIG.EXE**.

3.  Universal Configuration will then display the information collected in the network, as shown below.
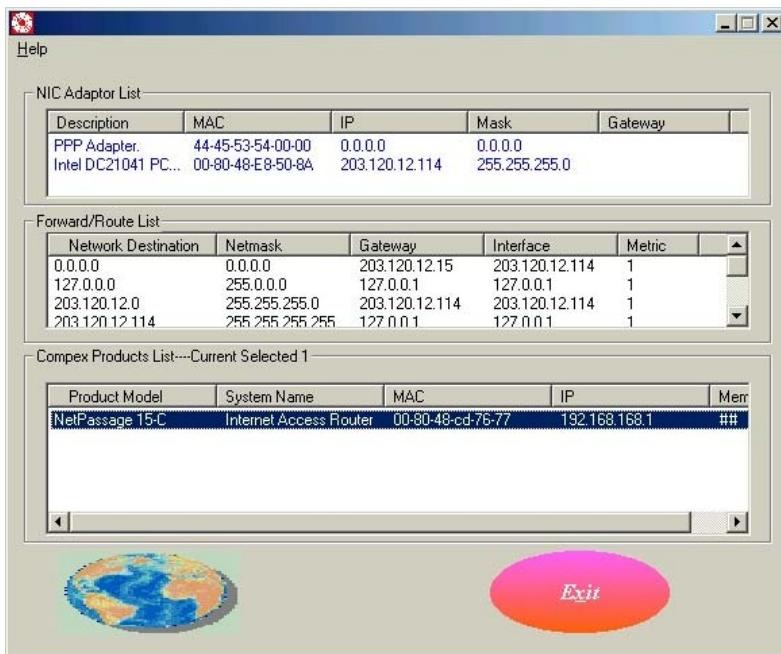


**Figure 2.2-1Universal Configuration**

4.  Select Compex NetPassage 15-C from Compex Product List window and press the **OpenWeb** button. The login prompt shall appear.

**Remote Access Router Manager**

Please enter your password:

Log On!

(Forget your password? - see the User's Guide for instructions.)
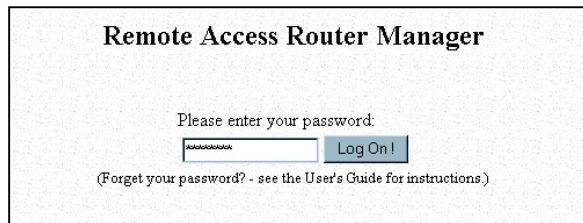
Figure 2.2-2Logon Page

5.  Enter the password and press the **Log On!** button to login. The default password for NetPassage 15-C is **password**.

6.  After you have completed the configuration, click on the **ExitUconfig** from the Command Menu. The Compex NetPassage 15-C will then reboot.

7.  Please proceed to **Section 3.1** to read more about network configuration.

**CAUTION**
Click on the **ExitUconfig** from the Command Menu to exit from the uConfig mode. If you do not exit the uConfig mode, the router may not function correctly.

**NOTE**
An alternative configuration of the NetPassage 15-C can be found in Appendix C.

Once log on, you will see a web page consist of three frames, the **Command Menu**, **Configuration Window** and **Message Window**, as shown in Figure 2.2-3.

| | |
|---|---|
| **Command Menu** | Enable the user to select feature to be configured |
| **Configuration Window** | Enable the user to configure the parameters associated with the selected feature |
| **Message Window** | Display the message (if any) associated with the configuration process |

**Configuration Menu**
Allows you to set up your
NetPassage 15-C to
connect to your network
easily. Hyperlinks connect
you to various menus.

**Command Menu**
Consists of 3 main
menus.
- Configuration
- System Tools
- Help

**Configuration
Window**
Edit various
attributes of
the menu here.



**Figure 2.2-.3 NetPassage 15-C Configuration Interface**

**Help menu**
Get advice
from our
friendly
technical
support
engineer.

**System Tools**
Edit various
internal settings of
NetPassage 15-C.

**Message Window**
Give you a history of the
various events. Various
configuration messages
are also displayed here.

**Security Configuration**
Allows you to set up firewall
configurations to limit unauthorized
applications entering your computer.

# Chapter 3   Configuring NetPassage 15-C

This chapter explains the features of NetPassage 15-C in sections and how to implement them.

## 3.1   Setting up your LAN

Compex NetPassage 15-C is pre-configured with a default IP address **192.168.168.1** with a network mask of **255.255.255.0**. By default, the DHCP Server has also been pre-configured to assign IP addresses starting from **192.168.168.100** to **192.168.168.254**. If you do not wish to use these for your network, you may change these settings.

### 3.1.1   Configuring IP Addressing

If you wish to modify the IP addressing of your NetPassage 15-C, you may do so in the web-based configuration interface.

1.   Log on to the web-based configuration interface of NetPassage 15-C with a web browser.
2.   Click on the **LAN Setup** URL from the Command Menu and the LAN setup window shall appear, as shown in Figure 3.1.1-1



**Figure 3.1.1-1**
**LAN Setup**

3.   Fill in the parameters in the respective text boxes:

| | |
|---|---|
| **IP Address** | This is the IP address of your NetPassage 15-C |
| **Network Mask** | This is the Network Mask of your NetPassage 15-C's IP address. It decides the subnet of your NetPassage 15-C. For example, if the IP address and network mask of your NetPassage 15-C is 192.168.168.1 and 255.255.255.0 respectively, the subnet of your NetPassage 15-C is 192.168.168.0. |

| | |
|---|---|
| **DHCP Start IP Address** | This is the first IP address where the built-in DHCP server of NetPassage 15-C assigns. It should be in the same subnet as your NetPassage 15-C. For example, if the IP address and network mask of your NetPassage 15-C is 192.168.168.1 and 255.255.255.0 respectively, the DHCP Start IP Address should be 192.168.168.X |
| **DHCP End IP Address** | This is the last IP address where the built-in DHCP server of NetPassage 15-C assigns. It should be in the same subnet as your NetPassage 15-C. For example, if the IP address and network mask of your NetPassage 15-C is 192.168.168.1 and 255.255.255.0 respectively, the DHCP End IP Address should be 192.168.168.X |
| **Always use these DNS servers** | This checkbox is associated with the built-in DHCP Server of NetPassage 15-C. If this box is "checked", the built-in DHCP Server will configure the DNS information of the computers. If this box is NOT "checked", you need to manually configure the DNS information in every computer in the network. |
| **Primary DNS IP Address** | If the **Always use these DNS servers** checkbox is "checked", fill in an IP address of a DNS server. This information is normally provided by your ISP. |
| **Secondary DNS IP Address** | This field contains the IP address of a secondary DNS server (optional) |
| **DHCP Server** | Enable or disable the DHCP server. If you disable the DHCP server, you need to manually configure the TCP/IP of every computer in the network. |

4.  Press the **Save** button followed by **Reboot** button to complete the process.

### 3.1.2  Advanced Option for DHCP Server

You may configure the built-in DHCP Server of NetPassage 15-C to release a specific IP address to a specific computer via the web-based configuration interface. You may also view the IP releases online.

**To reserve IP addresses for specific computers:**

1.  Press the **DHCP Server Reservations** button from the LAN Setup window shown in Figure 3.1.1-1. The configuration window for DHCP server reservation will be displayed, as shown in Figure 3.1.2-1.
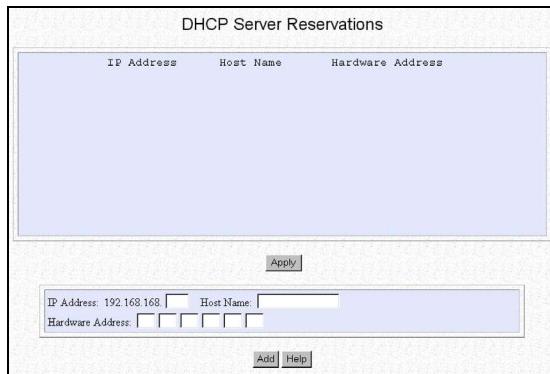
**Figure 3.1.2-1**
**DHCP Server Reservations**

2. Specify the reserved **IP Address**, the **Host Name** or the **Hardware Address** in the respective text boxes:

| | |
|---|---|
| **IP Address** | This is the reserved IP address for a specific computer |
| **Host Name** | This is the host name of the computer |
| **Hardware Address** | This is the hardware MAC address of the Ethernet interface of the computer |

> **NOTE**
> The reserved IP address must not be within the range of DHCP start and end IP addresses.

3. Press the **Add** button to add this entry, and the **Apply** button to make it effective.

**To view the IP released by the DHCP Server:**

1. Press the **Show Active Dhcp Leases** button in the LAN Setup window shown in Figure 3.1.1-1. The list of released IP addresses will be displayed, as shown in Figure 3.1.2-2.



**Figure 3.1.2-2**
**DHCP Server Reservations**

> **NOTE**
> Invalid date and time shown under **Expires** column indicates that the router's clock of your NetPassage 15-C has not been set. Refer to Section 3.14.2 on how to set the router's clock.

## 3.2    Configuring NetPassage 15-C with your Broadband Internet Account

Compex NetPassage 15-C shares a single Cable or ADSL Internet account with multiple computers in the network. It supports these broadband Internet connections with different types of WAN protocol. This includes Dynamic IP, Static IP and PPP over Ethernet (PPPoE). NetPassage 15-C has also been customized to support Big Pond Cable Internet in Australia and Singtel Magix SuperSurf in Singapore. Successful configuration of NetPassage 15-C to work with your broadband Internet account requires you to identify the type of broadband Internet connection you have subscribed. Refer to the following to select the correct WAN type for your broadband Internet subscription.

i.     If you have subscribed to Cable Internet of which your ISP dynamically assigns IP address to you, please go to **Section 3.2.1** titled **Cable Internet with Dynamic IP Assignment**.

ii.    If you have subscribed to Cable Internet of which your ISP provides you with an IP or a range of IP addresses, please go to **Section 3.2.2** titled **Cable Internet with Static IP Assignment**.

iii.   If you have subscribed to ADSL Internet that requires standard PPP over Ethernet (PPPoE) for authentication, please go to **Section 3.2.3** titled **ADSL Internet using PPPoE**.

iv.    If you are a subscriber of Singtel Magix SuperSurf in Singapore, please go to **Section 3.2.4** titled **Singapore Singtel Magix SuperSurf**.

v.     If you are a subscriber of Big Pond Cable Internet in Australia, please go to **Section 3.2.5** titled **Australia Big Pond Cable Internet**.

You may find some important information concerning the broadband ISP in your country in Appendix B of this User's Manual.

### 3.2.1   Cable Internet with Dynamic IP Assignment

By default, Compex NetPassage 15-C is pre-configured to support a WAN type that dynamically obtain an IP address from the ISP. If you have subscribed to Cable Internet of which your ISP dynamically assign an IP address, you do not need to configure the WAN type.

However, there are exceptional cases where additional configuration is required before an IP address is successfully obtained from the ISP:

i.     Certain ISPs log the MAC address of the first device connected to the broadband channel, and refuse to release an IP address unless the MAC address matches the one in the log. If this is not a new Cable Internet subscription and that the ISP refuses to release an IP address to you, you may clone the "approved" MAC address to NetPassage 15-C. Refer to the paragraph titled **Cloning MAC Address to NetPassage 15-C** in this section.

ii.    Certain ISPs requires a DHCP Client ID to be authenticated before releasing an IP address. To successfully obtain an IP address from such ISPs, you need to configure NetPassage 15-C with a DHCP Client ID. NetPassage 15-C uses

**Router Identity** as the DHCP Client ID to request for IP release. Refer to **Section 3.14.1** titled **Setting Router Identity**.

If your NetPassage 15-C has previously been configured with other WAN type, you may re-configure it to support Cable Internet with Dynamic IP Assignment.

1.  Click on the **WAN Setup** URL from the Command Menu and the WAN configuration page will be displayed, as shown in Figure 3.2.1-1.
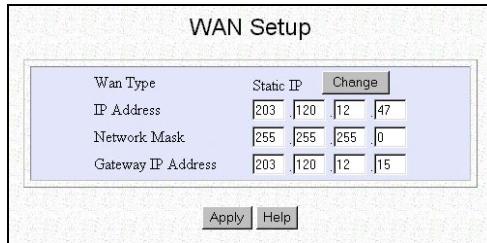


Figure 3.2.1-1
Changing WAN Type

**NOTE**

Figure 3.2.1-1 shows a WAN interface configured with static IP. If your NetPassage 15-C has previously configured with PPPoE or other WAN type, this page will show the respective configuration page.

2.  Press the **Change** button and the list of supported WAN type will be displayed, as shown in Figure 3.2.1-2.
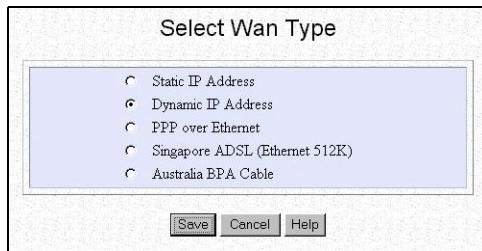


Figure 3.2.1-2
Selecting the WAN Type

3.  Check the **Dynamic IP Address** radio button and press the **Save** button.
4.  Press the **Reboot** button on the configuration menu to restart the NetPassage 15-C.

**Cloning MAC Address to NetPassage 15-C**

1.  Click on the **WAN Setup** URL from the Command Menu and the WAN configuration page will be displayed, as shown in Figure 3.2.1-3.
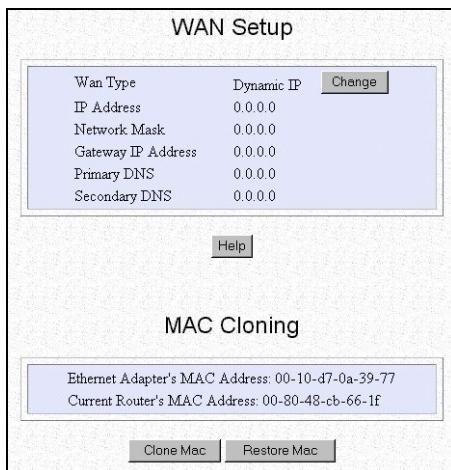
**Figure 3.2.1-3**
**Cloning MAC Address**

2. Press the **Clone Mac** button to clone the MAC address of your managing computer to NetPassage 15-C. The configuration interface will then prompt you to reboot the router. Press the **Reboot** button on the configuration menu to restart your NetPassage 15-C.

### 3.2.2 Cable Internet with Static IP Assignment

Certain ISPs lease a static IP for their Internet subscriptions. For such Cable Internet subscription, you need to configure the WAN interface of NetPassage 15-C with static IP address.

3. Click on the **WAN Setup** URL from the Command Menu and the WAN configuration page will be displayed, as shown in Figure 3.2.2-1.

Figure 3.2.2-1
Changing WAN Type

4.  Press the **Change** button and the list of supported WAN type will be displayed, as shown in Figure 3.2.1-2.
5.  Check the **Static IP Address** radio button and press the **Save** button. The Static IP Configuration page will then be displayed, as shown in Figure 3.2.2-2.
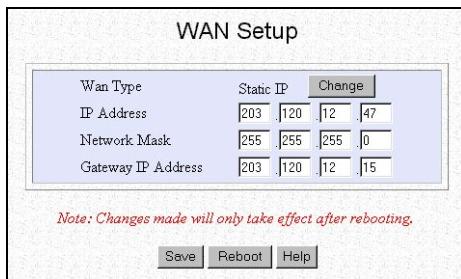


Figure 3.2.2-2
Static IP Configuration
Page

6.  Enter the **IP Address**, the **Network Mask** and the ISP's **Gateway IP Address** into the fields. These information are provided by your ISP. Press the **Save** button followed by the **Reboot** button to complete the configuration process.

### 3.2.3 ADSL Internet using PPP over Ethernet (PPPoE)

If you have subscribed to ADSL Internet service using standard PPP over Ethernet (PPPoE) for authentication, you need to configure your NetPassage 15-C to support PPPoE.

1.  Click on the **WAN Setup** URL from the Command Menu and the WAN configuration page will be displayed, as shown in Figure 3.2.2-1.

2.  Press the **Change** button and the list of supported WAN type will be displayed, as shown in Figure 3.2.1-2.
3.  Check the **PPP over Ethernet** radio button and press the **Save** button. The PPPoE Configuration page will then be displayed, as shown in Figure 3.2.3-1.
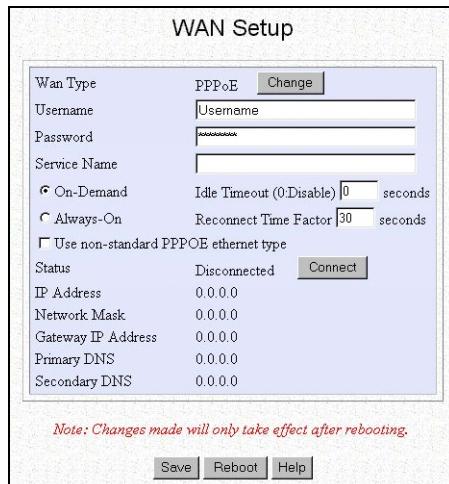


**Figure 3.2.3-1**
**PPPoE Configuration Page**

4.  Fill in the parameters for your ADSL Internet service:

| | |
|---|---|
| **Username** | Enter the username of your ADSL Internet subscription in this field |
| **Password** | Enter the password of the username |
| **Service Name** | Enter the service name of your ADSL Internet subscription (optional) |
| **On-Demand** | When this box is "checked", your NetPassage 15-C will automatically connect to the ISP when an Internet request is present in the network. |
| **Idle Timeout** | This field is associated with **On-Demand** option. This field allows you to specify the idling timeout value for NetPassage 15-C to disconnect from the ISP. "0" value in this field disables idling timeout function. When set to "0", NetPassage 15-C remains connected unless disconnected by the ISP. Once disconnected, the NetPassage 15-C will stay offline until the next Internet request is detected in the network. |
| **Always-On** | When this box is "checked", your NetPassage 15-C will always connect to the ISP, with and without Internet requests. |

| | |
|---|---|
| **Reconnect Time Factor** | This field is associated with **Always-On** option. This field allows you to specify a Reconnect Time Factor (RTF). The default value is 30 seconds. If **Always-On** option is selected with an RTF of 30 seconds, your NetPassage 15-C will stay connected to the ISP even when there is no Internet traffic present. If disconnected by the ISP, NetPassage 15-C will perform a delay for a random period between 1 to RTF seconds (for RTF value of 30, the random period is drawn between 1 to 30 seconds), and reconnect to the ISP. |
| **Use non-standard PPPOE Ethernet type** | Certain Ethernet-based ADSL modem requires non-standard PPP over Ethernet for authentication. If you are uncertain about this, DO NOT "check" this box. |

5. Press the **Save** button followed by the **Reboot** button to complete the configuration process.

### 3.2.4 Singapore SingTel Magix SuperSurf

You should use this WAN type only if you are a subscriber of SingTel Magix SuperSurf in Singapore. If you have subscribed to SingNet Broadband or Pacific Internet Broadband, please go to **Section 3.2.3** titled **ADSL Internet using PPP over Ethernet (PPPoE)**.

1. Click on the **WAN Setup** URL from the Command Menu and the WAN configuration page will be displayed, as shown in Figure 3.2.2-1.
2. Press the **Change** button and the list of supported WAN type will be displayed, as shown in Figure 3.2.1-2.
3. Check the **Singapore ADSL (Ethernet 512K)** radio button and press the **Save** button. The configuration page for SingTel Magix SuperSurf will be displayed, as shown in Figure 3.2.4-1.



**Figure 3.2.4-1**
**SingTel Magix SuperSurf**
**Configuration Page**

4. Enter the **Username**, **Password** and **Idling Timeout** value to the fields and press the **Save** button.
5. Press the Reboot button on the configuration menu to complete the configuration process.

### 3.2.5 Australia Big Pond Cable Internet

You should select this WAN type only if you are a subscriber of Big Pond Cable Internet in Australia. If you have subscribed to OPTUS in Australia, please go to **Section 3.2.1** titled **Cable Internet with Dynamic IP Assignment**. Please note that OPTUS requires a DHCP Client ID before releasing an IP address to you.

1. Click on the **WAN Setup** URL from the Command Menu and the WAN configuration page will be displayed, as shown in Figure 3.2.2-1.
2. Press the **Change** button and the list of supported WAN type will be displayed, as shown in Figure 3.2.1-2.
3. Check the **Australia BPA Cable** radio button and press the **Save** button. The configuration page for Big Pond Australia will be displayed, as shown in Figure 3.2.5-1.



**Figure 3.2.5-1**
**Big Pond Australia**
**Configuration Page**

4. Enter the **Username**, **Password** and **Idling Timeout** to the fields and press the **Save** button.
5. Press the **Reboot** button to complete the configuration process.

## 3.3 Network Address Translator (NAT)

Compex NetPassage 15-C has been designed with a Network Address Translator (NAT) that supports Port Address Translation (PAT), sharing a single public IP address with multiple computers in the private network by using different TCP ports for different computers. By default, the NAT is enabled.

> ⚠️ **CAUTION**
> Disabling the NAT will cause your computers not being able to share the broadband Internet service. DO NOT disable the NAT unless you are certain on what you are doing.

Due to the translation, the computers behind the NAT are not reachable from the Internet. However, with the support of Virtual Server, you may host the Internet servers behind the NAT based on Port Forwarding or IP Forwarding.

### 3.3.1 Introduction to Virtual Servers

Compex NetPassage 15-C supports two types of Virtual Server, one based on Port Forwarding and the other based on IP Forwarding, where IP Forwarding option is only available when the WAN interface of NetPassage 15-C has been configured with a static IP.

**Virtual Server based on Port Forwarding**

When Virtual Server based on Port Forwarding is implemented, Internet requests to the IP address of NetPassage 15-C's WAN interface will be forwarded to a specific computer in the private network based on the TCP port of the Internet request. Refer to Figure 3.3.1-1.
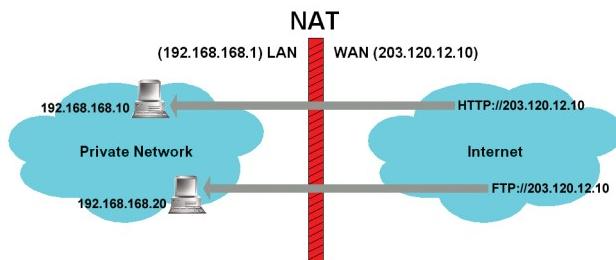


Figure 3.3.1-1
Virtual Server based on Port Forwarding

Figure 3.3.1-1 shows two Virtual Servers implemented, HTTP Virtual Server and FTP Virtual Server. To implement the Virtual Server, you need to know the TCP port that the intended application is using.

For example, suppose that your ISP has assigned an IP address of 203.120.12.10 to your NetPassage 15-C, and you wish to host a web server in your private network on a computer with an IP address of 192.168.168.10; you need to define a Virtual Server at TCP Port 80 (used by HTTP by default) to be forwarded to 192.168.168.10. Once implemented, all "http://203.120.12.10" requests will be forwarded to the computer with 192.168.168.10 IP address. If you wish to host another FTP server in your private network on a computer with an IP address of 192.168.168.20; you will then need to define a Virtual Server at TCP Port 21 (used by FTP by default) to be forwarded to 192.168.168.20.

**Virtual Server based on IP Forwarding**

If you have subscribed to a range of IP addresses from your ISP, you may also define Virtual Servers based on IP Forwarding. This type of Virtual Server forwards all Internet requests, regardless of the TCP port of the application, to a computer in the private network. Refer to Figure 3.3.1-2.
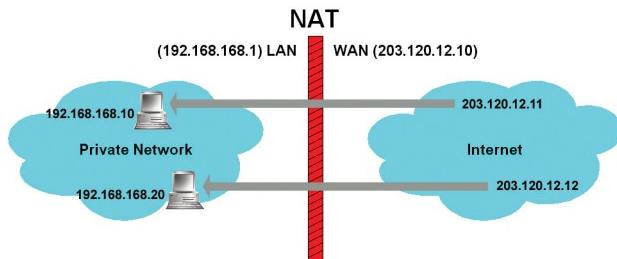


Figure 3.3.1-2
Virtual Server based
on IP Forwarding

Figure 3.3.1-2 shows two Virtual Servers based on IP Forwarding. One maps the public IP 203.120.12.11 to private IP 192.168.168.10, and the other maps the public IP 203.120.12.12 to private IP 192.168.168.20.

**Defining Virtual Server based on De-Militarized Zone (DMZ)**

Due to the nature of Network Address Translator (NAT), the subnet behind the NAT cannot be reached from the Internet. If you know the TCP/UDP port of an application, such as HTTP, you can easily define a Virtual Server based on Port Forwarding behind the NAT to support a Web Server in your private subnet. However, if you are uncertain on the TCP/UDP port used by an application (certain Internet games), or an application utilizes varying TCP/UDP port, you may define a DMZ host of which the NetPassage 15-C will direct all the unresolved Internet requests to.

For example, if the WAN interface of NetPassage 15-C has been assigned an IP address of 203.120.12.20 and you have defined a DMZ host with IP address of 192.168.168.10, all the unresolved Internet requests to 203.120.12.20 will be forwarded to 192.168.168.10, regardless of the TCP/UDP port.

### 3.3.2 Defining Virtual Server based on Port Forwarding

To define Virtual Server based on Port Forwarding:

1. Click on the **NAT** URL from the Command Menu and the NAT configuration page will be displayed, as shown in Figure 3.3.2-1.



**Figure 3.3.2-1
NAT Configuration Page**

2. Press the **Port Forwarding** button and the list of defined Virtual Server will be displayed, as shown in Figure 3.3.2-2.



**Figure 3.3.2-2
Table Showing Defined
Virtual Server based on
Port Forwarding**

3. Press the **Add** button to define new Virtual Server, as shown in Figure 3.3.2-3.



**Figure 3.3.2-3
Defining New Virtual
Server based on Port
Forwarding**

4. For **Known Server**, select the **Server Type** from the drop down menu and specify the private IP address of your Virtual Server.
For **Custom Server**, specify the IP address of the Virtual Server, select the **Protocol** used by this application from the drop down menu, specify the TCP/UDP port used by this application, and enter your preferred reference name in the **Server Type** field.
5. Press the **Add** button to add this new Virtual Server into the list.
6. Press the **Save or Reset Settings** URL from the Command Menu and press the **Save** button.

### 3.3.3 Defining Virtual Server based on IP Forwarding

If you have configured your NetPassage 15-C with Static IP WAN type, you have the option to define Virtual Server based on IP Forwarding.

1. Click on the **NAT** URL from the Command Menu and the NAT configuration page will be displayed, as shown in Figure 3.3.3-1.
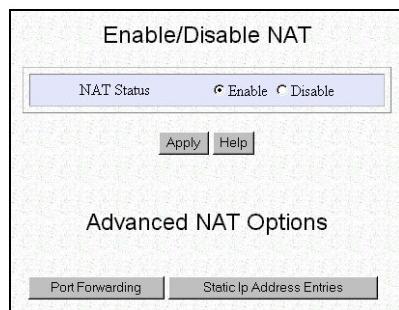


**Figure 3.3.3-1 NAT Configuration Window for Static IP WAN Type**

2. Press the **Static Ip Address Entries** button and the list of defined Virtual Server will be displayed, as shown in Figure 3.3.3-2.



**Figure 3.3.3-2 Table Showing Defined Virtual Server based on IP Forwarding**

3. Press the **Add** button to define new Virtual Server, as shown in Figure 3.3.3-3.

**Figure 3.3.3-3**
**Defining New Virtual Server based on IP Forwarding**

4.  Enter the **Public IP Address** and the **Private IP Address** which it maps to. Please ensure that you have subscribed to this **Public IP Address**.
5.  Press the **Add** button to add this new Virtual Server into the list.
6.  Click on the **Save or Reset Settings** URL from the Command Menu and press the **Save** button.

### 3.3.4  Defining De- Militarized Zone

To define a DMZ host:

7.  Click on the **NAT** URL from the Command Menu and the NAT configuration page will be displayed, as shown in Figure 3.3.4-1.



**Figure 3.3.4-1**
**NAT Configuration Page**

8.  Press the **DMZ** button and the DMZ Host Definition Window will be displayed, as shown in Figure 3.3.4-2.



**Figure 3.3.4-2**
**Configuring DMZ**

9.  Enter the IP address of the your designated computer and press the **Apply** button.
10. Save the configuration profile.

| NOTE | **NOTE**<br>To disable DMZ, please enter the IP address as 0.0.0.0. |
| --- | --- |

## 3.4    Configuring Routing Protocol

Compex NetPassage 15-C allows the network administrator to add a static routing entry into the routing table. Other than the default gateway to the Internet, NetPassage 15-C may reroute the IP packets to another network. This is very useful for a network with more than one router.

> ⚠ **CAUTION**
> If you are configuring NetPassage 15-C for broadband Internet sharing, you DO NOT need to configure any routing information. The default routing settings of NetPassage 15-C are sufficient for broadband Internet sharing. Improper routing configuration will cause undesired effect.

For example, if you have two routers in the network, where one functions as an Internet gateway and the other as a gateway to a remote office. You may define a static route in NetPassage 15-C to re-route the packets to the remote office. Refer to Figure 3.4-1.
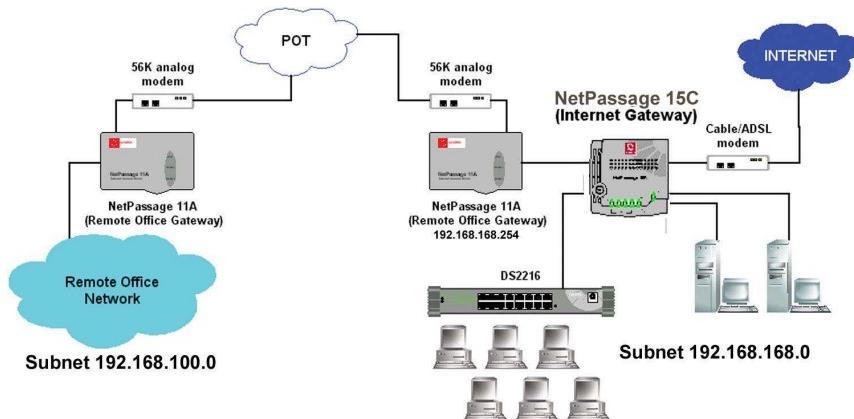


**Figure 3.4-1**
**Network with multiple gateways. One to the**
**Internet and the other to the remote office.**

In this network, the main office of subnet 192.168.168.0 contains two routers, one connected to the broadband Internet via NetPassage 15-C (IP 192.168.168.1) and the other connected to a remote office via NetPassage 11A (IP 192.168.168.254). The remote location resides on subnet 192.168.100.0. You may add a static routing entry into NetPassage 15-C's routing table to point the gateway 192.168.168.254 to subnet 192.168.100.0. Once added, packets with destination IP address of 192.168.100.X will be re-routed to NetPassage 11A (IP 192.168.168.254).

Alternatively, you may also activate dynamic routing protocol on NetPassage 15-C. Compex NetPassage 15-C supports two types of routing protocol, RIP1 and RIP2.

### 3.4.1   Static Routing

To add a static routing entry into NetPassage 15-C's routing table:

1.   Click on the **Routing** URL from the Command Menu, and the routing configuration page will be displayed, as shown in Figure 3.4.1-1.
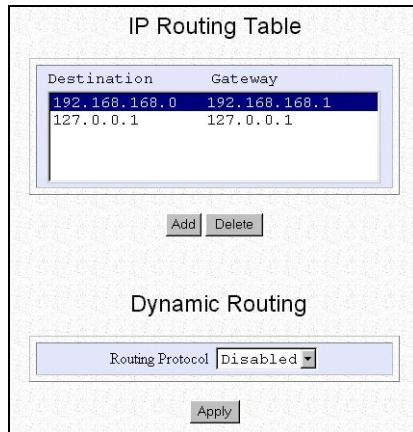
**Figure 3.4.1-1**
**Routing Configuration Page**

2.   To define a new static routing entry into the routing table, press the **Add** button. The following page will be displayed, as shown in Figure 3.4.1-2.
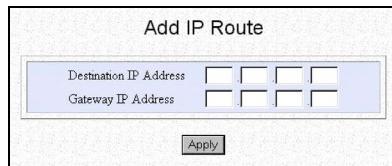
**Figure 3.4.1-2**
**Adding New Static Routing Entry into the Routing Table**

3.   Enter the destination network address into the **Destination IP Address** field and the IP address of the gateway connected to this network into the **Gateway IP Address** field. For example if a gateway of IP 192.168.168.254 is connected to a remote network 192.168.100.0, enter the **Destination IP Address** and **Gateway IP Address** as 192.168.100.0 and 192.168.168.254 respectively.
4.   Press the **Apply** button to add the new static routing entry into NetPassage 15-C's routing table

### 3.4.2   Dynamic Routing

To enable dynamic routing protocol:

1. Click to expand the **Dynamic Routing** drop down menu and select the preferred dynamic routing protocol, RIP1 or RIP2. (Figure 3.4.1-1)
2. Press the **Apply** button for the changes to be effective.

## 3.5   Managing NetPassage 15-C from the Internet

Compex NetPassage 15-C is integrated with an HTTP Server, enabling router management from the private network with just a JAVA-enabled web browser. It may also be managed via a Command Console. In addition, Compex NetPassage 15-C supports Remote Router Management, allowing the network administrators to manage the router from the Internet, either by a web browser or via a TELNET session.

### 3.5.1   Activating Remote Router Management

To activate Remote Router Management from the Internet:

1. Click on the **Remote Management** URL from the Command Menu and the remote management activation page will be displayed, as shown in Figure 3.5.1-1.



**Figure 3.5.1-1
Activating Remote
Router Management**

2. Enter the desired TCP port that you wish to use for Remote Router Management. Default value of "0" disables this feature.

| | |
|---|---|
| **HTTP Port** | Specify the desired port for remote router management via a web browser. If you have specified a non-standard TCP port for this field, you need to specify the port number when you connect to the management interface from the Internet.

For example, if your ISP has assigned 203.120.12.30 to NetPassage 15-C's WAN interface and you have chosen to use port 2000 for HTTP remote management, you may connect to the router management interface by using http://203.120.12.30:2000. |
| **TELNET Port** | Specify the desired port for remote router management via a TELNET session (Command Console). If you have specified a non-standard TCP port for this field, you need to specify the port number when you connect to the command console from the Internet. |

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> For example, if your ISP has assigned 203.120.12.30 to NetPassage 15-C's WAN interface and you have chosen to use port 5000 for TELNET remote console management, you may connect to the router command console by TELNET to port 5000 of 203.120.12.30

3.  Press the **Save** button followed by the **Reboot** button to complete the process.

## 3.6 Load Balancing & Fail-Over Redundancy with Parallel Broadband

Designed with the unique **Parallel Broadband** technology, Compex NetPassage 15-C provides scalable Internet bandwidth with Load Balancing and Fail-Over Redundancy. If multiple units of NetPassage 15-C are installed in the network, the Internet traffic will be balanced across multiple broadband channels, delivering virtually a combined aggregated bandwidth while functioning as Fail-Over Redundancy.
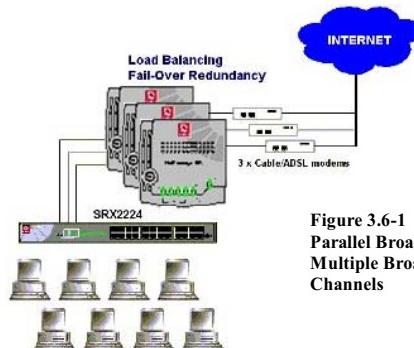


**Figure 3.6-1 Parallel Broadband with Multiple Broadband Channels**

### 3.6.1 Implementing Parallel Broadband

To implement Parallel Broadband, you need to install two or more units of NetPassage 15-C in the network, each connected to its broadband Internet service account. There is no restriction on the type of broadband Internet accounts that they are connected to. For example, if you have two NetPassage 15-Cs in the network, you may have one connected to Cable Internet whereas the other connected to ADSL line. Once the Parallel Broadband is implemented, these two NetPassage 15-Cs will balance the Internet traffic among them while functioning as Fail-Over Redundancy to each other. To activate Parallel Broadband:

1.  Click on the **Parallel Broadband** URL from the Command Menu and the Parallel Broadband activation page will be displayed, as shown in Figure 3.6.1-1.
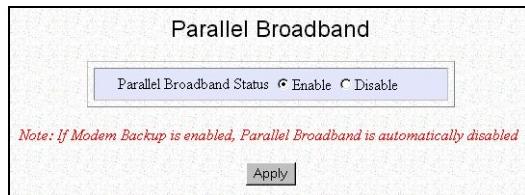
**Figure 3.6.1-1**
**Activating Parallel Broadband**

2.    Check the **Enable** radio button and press the **Apply** button.

> **NOTE**
> You DO NOT need to implement Parallel Broadband for Internet sharing using one unit of NetPassage 15-C.

## 3.7    Static Address Translation (SAT)

If you are a notebook user, it is probably very often that you connect to the Internet at your home to retrieve emails or surf the Internet. NetPassage 15-C supports Static Address Translation that allows your notebook computer to connect to the Internet even if it is NOT configured with the same subnet as Compex NetPassage 15-C's.

For example, if Compex NetPassage 15-C is configured with a Class C IP of 192.168.168.1 and your notebook is configured with Class C IP of 203.120.12.47, you may access to the broadband Internet via Compex NetPassage 15-C without the need of reconfiguring the TCP/IP of your notebook. By default, this feature is disabled.

> **NOTE**
> If you are unsure whether to activate the SAT functionality, please disable this function.
>
> If your Compex NetPassage 15-C is still using the older firmware, please go to Compex's website at www.compex.com.sg to download the latest firmware.

### 3.7.1  Enable/disable Static Address Translation

1. Click on **Static Address Translation** option from the Command Menu and the following window shall be displayed.

**Figure 3.7.1 Static Address Translation**

2. Press the **Enable** or **Disable** radio button to enable/disable this feature.

3. Press the **Apply** button for the changes to be affective.

4. Save the configuration.

### 3.8 DNS Redirection

Compex NetPassage 15-C enables you to access to the internet without knowing the IP Address of DNS server. You can simply key in any legal IP Address in the field of the TCP/IP Properties window such as 10.10.10.10. Please refer to the figures shown below:
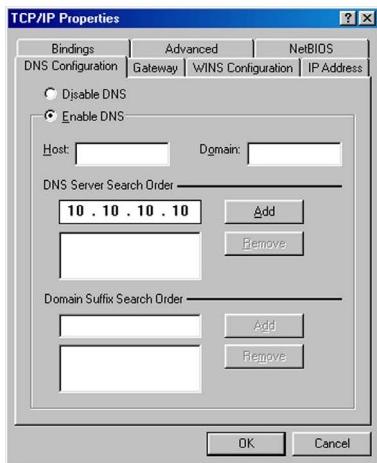


**Figure 3.8-1 TCP/IP for Windows 95/98**
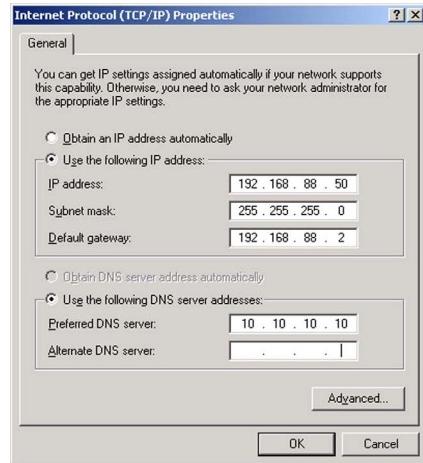


**Figure 3.8-2 TCP/IP for Windows 2000**

Click on the **Enabled** radio button followed by **Apply** button as shown below.



**DNS Redirect**

DNS Redirection    ⦿ Enable  ○ Disable

Apply

Current Router DNS: 0.0.0.0, 0.0.0.0
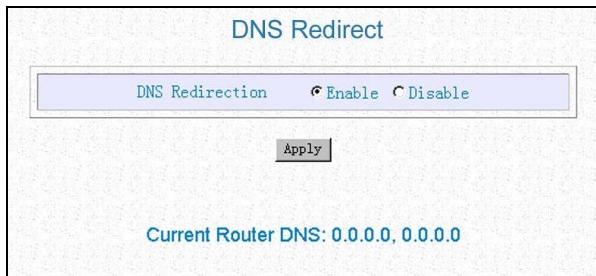
Figure 3.8-3 DNS Redirection

Now, you can easily surf the net without worries.

| NOTE | **NOTE**<br>If you set the IP Address of your PC to dynamic, enabling the DNS Redirection function will not be activated. |
|---|---|

| ⚠ | **CAUTION**<br>You should not leave the DNS Server field in the TCP/IP Properties window blankly or the router will not be able to assign an IP Address to your PC. And this leads to inaccessible to the internet. |
|---|---|

**3.9    Firewall Configuration**

Compex NetPassage 15-C is specially designed with firewall function to prevent unauthorized access to or from the network. All messages entering or leaving Compex NetPassage 15-C will pass through the firewall. It will then examine each message and block those that do not meet the specified security criteria. The firewall can be activated by purchasing an activation key from www.compex.com.sg or www.cpx.com website.

Compex NetPassage 15-C uses Packet Filtering and Static inspection methods to control the traffic flowing in and out of the network. The packets that make it through the filters are sent to the requesting system and the rest are discarded. Static inspection compares certain key parts of the packet to a database of trusted information. All information that travels through the firewall is monitored for specified defining characteristics, and the incoming information is compared to these characteristics. If the comparison matches, the information is allowed to pass through, otherwise, it is discarded.

### Firewall Configuration

*Warning: Incorrect configuration may cause undesirable behavior.*

Firewall Status: ○ Enable ⊙ Disable
Security Level: ⊙ Low ○ Medium ○ High
Log Information

Accepted
☐ TCP Packets ☐ UDP Packets

☐ ICMP Packets ☐ IGMP Packets

Denied
☐ TCP Packets ☐ UDP Packets

☐ ICMP Packets ☐ IGMP Packets

| Select to Edit | Rule Number | Disposition Policy | Protocols | Source Address(es) | Destination Address(es) | Source Ports | Destination Ports |
|---|---|---|---|---|---|---|---|
| ○ | 21 | Accept | Icmp | Any | Any | Any | Any |
| ○ | 22 | Accept | Udp | Any | Any | 53 | Any |
| ○ | 23 | Accept | Tcp | Any | Any | Any | 80-83 |
| ○ | 24 | Accept | Tcp | Any | Any | Any | 8080 |
| ○ | 25 | Accept | Udp | Any | Any | 334 | Any |
| ○ | 26 | Accept | Udp | Any | Any | 1645 | Any |
| ○ | 27 | Accept | Tcp | Any | Any | 20 | Any |
| ○ | 28 | Accept | Udp | Any | Any | 7777 | 7777 |
| ○ | 29 | Accept | Udp | Any | Any | 67 | 68 |

Apply  Add  Delete  Edit

Set To Default Value

**Figure 3.9-1 Configuration on Firewall**

### 3.9.1 Security Level

The level of security that you have chosen (low, medium, high) will determine how many of these threats can be stopped by firewall. The highest level of security would be to simply block almost everything. You can restrict the traffic flows through the firewall so that only certain information, such as email, can get through.

### 3.9.2 Log Information

Different protocols served differently for filtering purposes:

**TCP** (Transport Control Protocol) is used to rebuild information that travels over the Internet.

**UDP** (User Datagram Protocol) is used for the information that requires no response, such as streaming audio and video.

**ICMP** (Internet Control Message Protocol) is used by Compex NetPassage 15-C to exchange the information with other routers.

**IGMP** (Internet Group Management Protocol) is used to establish host memberships in particular multicast groups on a single network.

If you select any of packets from the **Accepted** section, these received packets which has passed the filtering rules will be displayed in the firewall log section – Figure 3.11a. This also applies to the **Denied** section.

### 3.9.3    Adding Firewall Rules

If you wish to add in more rules for security purposes, simply,

1. Click on **Add** button and the following GUI will appear.
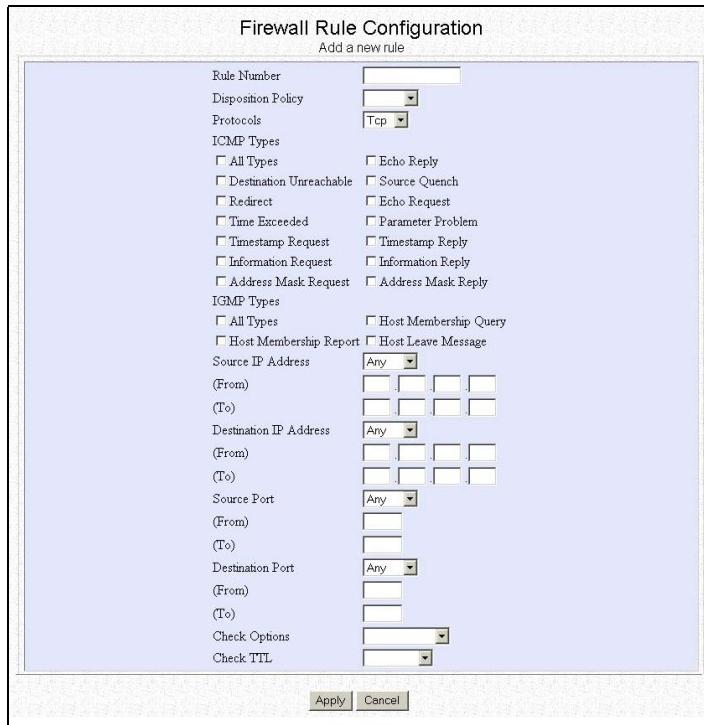


**Figure 3.9.3-1 Firewall Rule Configuration**

2. After entering your preference entry to individual field, hit on the **Apply** button to confirm the rules configuration.

**3.10    Firewall Log**

This Firewall log displays all necessary information such as the reasons on why the packets are being accepted or discarded. The log will also inform you about the attack on UDP flooding or SYN flooding.



**Figure 3.10-1 Firewall Log**

Click on **Refresh** button to update the latest information.

**3.11    IP Packet Filtering**

Compex NetPassage 15-C enables the users to define administrative functions based on packet filtering rule. With IP packet filtering, you may perform **Time-based Access Management** and **Internet Application Filtering**.

**Time-based Access Management** selectively allow or disallow certain computers in the network to access to the Internet in different time frame. For example, you may define a function to allow your children to access to the Internet only between 8:00PM to 10:00PM.

**Internet Application Filtering** selectively allow/disallow certain application to connect to the Internet. For example, if you wish to allow only web browsing in the network, you may define a function to allow only HTTP protocol to pass through Compex NetPassage 15-C.

## 3.11.1 Time-based Access Management

To define a function for Time-based Access Management:

1. Before proceeding to define a function for **Time-based Access Management**, ensure that your Compex NetPassage 15-C's router clock has been synchronized with your computer. Refer to **Section 3.14.2** titled **Synchronizing Router's Clock with your Computer** on how to synchronize the router's clock.

2. Click on the **Filtering** from the Command Menu and the table listing defined packet filter function will be displayed, as shown in Figure 3.12a. In this page, you may **Add**,

**Delete** or **Edit** a filtering function. You may also select to send or discard the packet if it matches the filtering rules.



<p align="center">**Figure 3.11.1-1 Table Listing Defined Filter Functions**</p>

3. Press the **Add** button to define a new function for **Time-based Access Management**. The following page will be displayed as shown.



<p align="center">**Figure 3.11.1-2 Defining Filtering Function**</p>

4. To define a rule for **Time-based Access Management**, you need to know the IP address of the computers where this rule applies. For example, if you wish to disallow two computers (IP address of 192.168.168.10 and 192.168.168.11) to access to the Internet between 10:00PM to 8:00AM, you may define a rule with the following parameters:

| | |
|---|---|
| **Rule Name** | Enter your preferred name for this rule |
| **IP Address** | Select **Range** from the drop down menu |
| **(From)** | 192.168.168.10 |
| **(To)** | 192.168.168.11 |
| **Destination Port** | Any |
| **(From)** | \<blank\> |
| **(To)** | \<blank\> |
| **Day of the Week** | Any |

| | |
|---|---|
| **(From)** | Sun |
| **(To)** | Sun |
| **Time of the day** | Select **Range** from the drop down menu |
| **(From)** | 22:00 |
| **(To)** | 08:00 |

5. Press the **Apply** button to add this filtering function into the list.

6. Ensure that the **Sent** radio button is "checked".

7. Press the **Apply** button for the changes to be effective.

## 3.12  Internet Application Filtering

To define a function to perform **Internet Application Filtering**:

1. Press the **Add** button at the filtering configuration page as shown in Figure 3.11.1-1.

2. To define a rule to perform Internet Application Filtering, you need to know the TCP port of the application of which this rule applies. For example, if you wish to stop the computers from connecting to the Internet via a TELNET (uses TCP Port 23) session, you may define a rule with the following parameters:

| | |
|---|---|
| **Rule Name** | Enter your preferred name for this rule |
| **IP Address** | Select **Any** from the drop down menu |
| **(From)** | \<blank\> |
| **(To)** | \<blank\> |
| **Destination Port** | Select **Single** from the drop down menu |
| **(From)** | 23 |
| **(To)** | \<blank\> |
| **Day of the Week** | Any |
| **(From)** | Sun |
| **(To)** | Sun |
| **Time of the day** | Select **Any** from the drop down menu |
| **(From)** | \<blank\> |
| **(To)** | \<blank\> |

3. Press the **Apply** button to add this filtering function into the list.

4. Ensure that the **Sent** radio button is "checked".

5. Press the **Apply** button for the changes to be effective.

### 3.13    8e6 Internet Filtering

8e6 Technologies is the original developer of X-Stop filtering solutions which has been a pioneer in Internet Access Management technology. It develops customized Internet Access Management network applications for businesses, ISPs and the education market. Internet Filtering is important in this technological society as it helps to secure others from accessing to certain websites, such as accessing to undesirable content website in school or library, etc.

**8e6 Internet Filtering**

Currnet Status: Not receive reply from Radius server
( Now Filtering Disabled For The Time Selection )

**8e6 Internet Filtering**

Filtering Function        ○ Enable  ● Disable   Apply

Time Selection

**Advance Configuration**

8e6 Filtering Authentication Server Setting        Modify

URL Addition
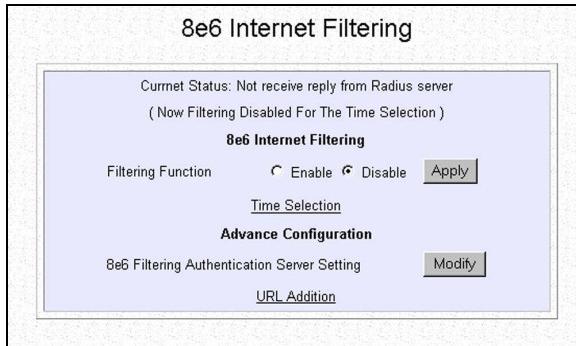
**Figure 3.13 -1 8e6 Internet Filtering**

### 3.13.1 Time Selection

Enabling the filtering function will prompt 8e6 to start checking the packets that are being sent or received. If you wish to select certain period of time to activate the filtering function, you can simply hit on the **Time Selection** option and the following GUI will appears. Click on the **Apply** button to confirm the configuration.

**Time Selection Configuration**

*Warning: System clock needs to be configured before Internet filtering can function properly.*

Day of the Week (From)        Mon ▾
Day of the Week (To)          Fri  ▾
Time of the Day (From)        08:00  (hh:00-23,mm:00-59)
Time of the Day (To)          17:00  (hh:00-23,mm:00-59)

Apply
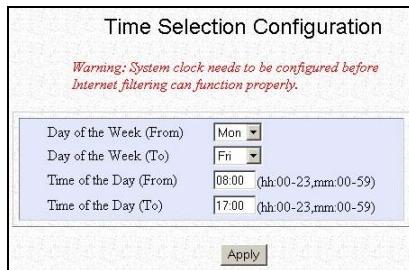
**Figure 3.13.1-1 Time Selection Configuration**

### 3.13.2 URL Addition

For some of the website which the system administrator does not wish to others to access, he can simply:

1. Open a new text document.

2. Type in the URL address and saved the document.

3. Click the **URL Addition** option as shown in Figure 3.13 -1.

4. The GUI in Figure 3.13.2-1 will appear. Click on the **Browse..** button and locate your saved text document.

5. Hit on the **Load** button to activate the filtering configuration.
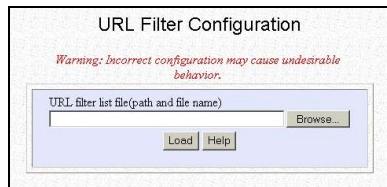


**Figure 3.13.2-1 URL Filter Configuration**

### 3.13.3 Advanced Configuration

You may leave this section as its default setting. The information for this section is provided by 8e6, therefore you do not need to do anything.
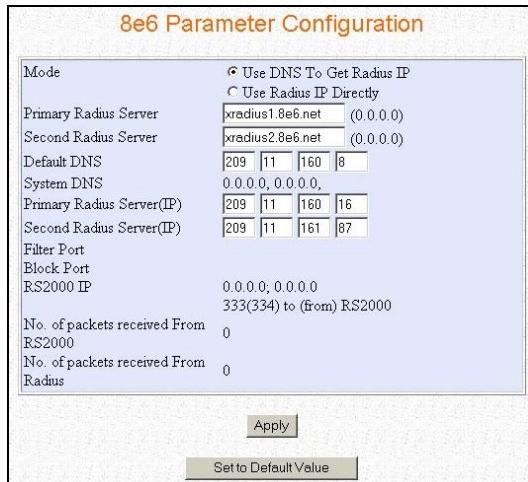


**Figure 3.13.3-1 8e6 Parameter Configuration**

## 3.14 NetPassage 15-C's System Tools

The web-based configuration interface of NetPassage 15-C comes with a set of system tools for you to define name for your NetPassage 15-C, setting the router's clock, upgrading the firmware, saving & restore router's profile and changing the administrative password.

### 3.14.1 Setting Router Identity

You may define a name for your NetPassage 15-C. This name will also be used as a DHCP Client ID when it negotiates for an IP release from your ISP.

1.  Click on the **Router Identity** URL from the Command Menu and the router identity configuration page will be displayed, as shown in Figure 3.14.1-1.



**Figure 3.14.1-1**
**Configuring Router's**
**Identity**

2.  Enter the Name, the Contact person and the Location of the NetPassage 15-C.
3.  Press the **Apply** button for the changes to be effective.

### 3.14.2 Synchronizing Router's Clock with your Computer

Compex NetPassage 15-C is specially designed with a SNTP compatibility and router's clock that can be synchronized with the managing computer. The administrative function such as Time-based Access Control relies on the router's clock. Therefore, it is important that the router's clock is set correctly.

1.  Click on the **Set Router's Clock** URL from the Command Menu and the System Time Setting window will be displayed, as shown in Figure 3.14.2-1.
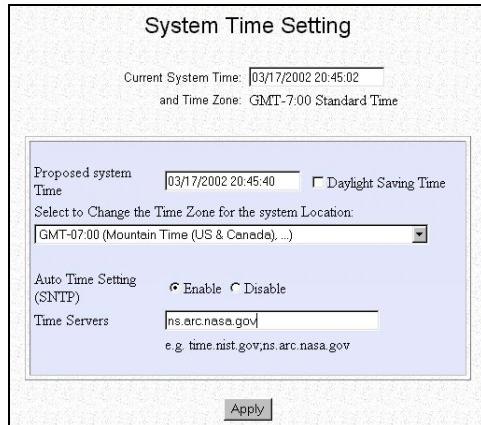
**Figure 3.14.2-1**
**Synchronizing Router's**
**Clock**

2. The **Proposed Router Time** will display the system time of your managing computer.
3. Select the **Enable** radio button at **Auto Time Setting** and enter your preferred time server in the text box. (please refer to Figure 3.14.2-1)
4. Press the **Apply** button for the changes to be effective.
5. Save the configuration profile.

### 3.14.3 Upgrading Router's Firmware

Compex NetPassage 15-C comes with the firmware upgrade capability. You may download the latest firmware from Compex corporate website (http://www.compex.com.sg or http://www.cpx.com) and update the firmware of your NetPassage 15-C.

1. Click on the **Firmware Upgrade** URL from the Command Menu and the firmware upgrade page will be displayed, as shown in Figure 3.14.3-1



**Figure 3.14.3-1**
**Upgrading Router's**
**Firmware**

2. Press the **Browse** button and locate the firmware image from your computer.
3. Press the **Upgrade** button to update your NetPassage 15-C's firmware. It is critical that the power supply is not cut off during the firmware upgrade process. Once the firmware upgrade process is completed, your NetPassage 15-C will restart.

**CAUTION**
Make sure that the power supply is not cut off during the firmware upgrade process. If the NetPassage 15-C loses power supply during firmware upgrade process, the firmware will be corrupted and the NetPassage 15-C will no longer be functional.

### 3.14.4 Profile Saving, Restore & Reset to Defaults

You may save the configuration profile of your NetPassage 15-C onto the hard disk of your managing computer and restore this profile in a later time. You may also reset the configuration of your NetPassage 15-C to factory defaults.

1. Click on the **Save or Reset Settings** URL from the Command Menu and the following page will be displayed, as shown in Figure 3.14.4-1.
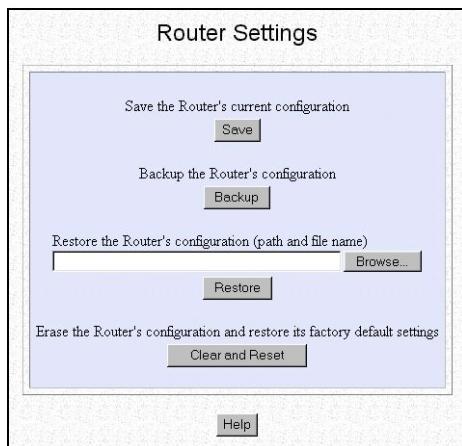


Figure 3.14.4-1
Saving, Restore and
Reset Profile

2. Press the **Save** button if you wish to save the configuration profile into NetPassage 15-C's flash ROM. Press the **Backup** button if you want to save the configuration profile onto the hard disk. If you want to restore a profile, press the **Browse** button to select the file from the hard disk and press the **Restore** button. If you wish to reset your NetPassage 15-C back to factory defaults, press the **Clear and Reset** button.

**CAUTION**
Pressing the **Clear and Reset** button will discard all the configuration you have saved to NetPassage 15-C's flash ROM.

### 3.14.5 Rebooting NetPassage 15-C

You may reboot your NetPassage 15-C manually from the web-based management interface. Please always ensure that the changes have been saved before rebooting the router.

**CAUTION**
If you reboot the NetPassage 15-C without saving the configuration, all the unsaved configuration will be lost after reboot.

1. Click on the **Reboot Router** URL from the Command Menu.
2. Press the **Yes** button to reboot the router.

### 3.14.6 Changing Administrative Password

By default, the administrative password is "password". You may change the password to your preferred string.

1. Click on the **Change Password** URL from the Command Menu.
2. Type in the **Old Password**, the **New Password** and **Confirm Password**. Press the **Change Password** button to make the changes effective.

### 3.14.7 NetPassage 15-C Firmware Recovery Procedure

This procedure shows how to reload the firmware to NP15-C should something go wrong and router could not startup properly. NP15-C automatically switches to loader mode when this happens. The router LEDs will indicate as follows: CONN steady light on and DIAG blinking rapidly (about 10 times per second).

| Router Operation State | CONN | DIAG |
|---|---|---|
| Firmware corrupted, need reload | ON | Blinking quickly.(10/sec) |
| Firmware upload successfully | ON | Blinking slowly (1/sec) |
| Firmware upload failed, need reload | ON | Blinking quickly.(10/sec) |

**How to Recover Router from Failed Firmware**

After powering ON the NP15-C, check the DIAG and CONN LEDs status according to the table above. If the LEDs blink in a different way, it might be a different problem. Check **1.4.2 Panel Description** on Page 5 for a more accurate diagnosis.

1) Power OFF and disconnect router from the network.
2) Connect one end of a MDI cable to the LAN port on the NP15-C then connect the other end to your computer's LAN adapter.
3) Configure your computer's IP to: 192.168.168.100 with netmask 255.255.255.0
   By default, the PC will be assigned the IP 192.168.168.100 from router.
4) Insert NP15-C CD containing the recovery file in CD-ROM tray. Run the batch file, **15crecvr.bat** to start the firmware recovery process.
5) When completed, the DIAG LED will blink slowly, about 1 flash per second.
6) Reset the router and it will start up normally.) If you still have problems, please call technical support for further assistance.

### 3.14.8 Using the Reset Button

NP15-C comes with a reset button (near the WAN Port)

What the **Reset** button can do:

1) Manually reboot the router.

   Press button once and release, router will reboot

2) Reset forgotten password to default i.e. password

   Press and hold button till **DIAG** light starts to blink fast (2 flashes/sec) then release button. Router's password will be reset to factory default., i.e. password.

3) Clear router configuration to factory default.

   Press and hold button, **DIAG** light starts to blink fast (2 flashes/sec) at first then it will blink slowly (1 flash/sec) then release button. Router's configuration will reset to factory default.

| | |
|---|---|
| **NOTE** | If you have pressed and started the **Reset** button sequence, you can avoid accidentally resetting router's configuration by continuously holding down the **Reset** button until the **DIAG** light becomes steady then release button. |

# Appendix A        Console Commands

## SHOW Command

| SYNTAX | DESCRIPTION |
|---|---|
| SHOW IP | Display the IP information of the LAN and WAN interface |
| SHOW IP STAT | Display the statistics of the IP packets |
| SHOW ICMP STAT | Display the statistics of the ICMP packets |
| SHOW UDP STAT | Display the statistics of the UDP packets |
| SHOW TCP STAT | Display the statistics of the TCP packets |
| SHOW IP ROUTE TABLE | Display the routing table |
| SHOW IP STATIC NAT TABLE | List defined virtual servers based on IP forwarding |
| SHOW PORT STATIC NAT TABLE | List defined virtual servers based on port forwarding |
| SHOW SYSTEM | Display the system information |
| SHOW RIP | Display the status of the dynamic routing protocol |
| SHOW GATEWAY | Display the gateway IP address of the WAN interface |
| SHOW DHCP | Display the DHCP information |
| SHOW DHCP RESERVE | Display the DHCP reservations |
| SHOW DHCP LEASE | Display the leased IP information |
| SHOW ETHERNET ADDRESS | Display the MAC address of the LAN & WAN interface |
| SHOW TELNET SESSION | Display the source IP of the open TELNET console session |
| SHOW TIME | Display current router's time |
| SHOW NAT STAT | Display the status of the NAT |
| SHOW ARP TABLE | Display the ARP table in the router |
| SHOW FILTER | List defined IP packet filtering rules |

## SET Command

| SYNTAX | DESCRIPTION |
|---|---|
| SET IP LAN <IP ADDR> <NETMASK> | Set the IP address of the LAN interface |
| SET IP WAN <IP ADDR> <NETMASK> | Set the IP address of the WAN interface |
| SET GATEWAY <IP ADDR> | Set the gateway IP address of the WAN interface |
| SET SYSTEM NAME <STRING> | Set the router's identity |
| SET SYSTEM CONTACT <STRING> | Specify the contact person for this router |
| SET SYSTEM LOCATION <STRING> | Specify the location of this router |
| SET PASSWORD | Changing the administrative password |
| SET TIMEZONE <GMT DIFF> | Set the timezone based on GMT time difference |
| SET TIME <HH:MM:SS> | Set the router's time |
| SET DATE <MM/DD/YYYY> | Set the router's date |
| SET DHCP SERVER | Configure the DHCP server |
| SET PROMPT "<STRING>" | Set the text appear at the command console |
| SET WAN TYPE | Select the WAN type |
| SET FILTER MODE | Set the option on IP packet filtering rules |

## PING Command

| SYNTAX | DESCRIPTION |
|---|---|
| PING <IP ADDR> | Ping a host by its IP address |

## DELETE Command

| SYNTAX | DESCRIPTION |
|---|---|
| DELETE ARP <IP ADDR> | Remove an IP address from the ARP table |
| DELETE IP ROUTE <DES> <GATEWAY> | Remove an entry from the routing table |
| DELETE IP STATIC NAT <INDEX> | Delete an entry from the list of defined virtual server based on IP forwarding. You may obtain the <INDEX> by listing the defined IP |

| | forwarding table with the command "SHOW IP STATIC NAT TABLE" |
|---|---|
| DELETE PORT STATIC NAT <INDEX> | Delete an entry from the list of defined virtual server based on port forwarding. You may obtain the <INDEX> by listing the defined port forwarding table with the command "SHOW PORT STATIC NAT TABLE" |
| DELETE DHCP RESERVE <INDEX> | Delete a DHCP reservation from the list. The <INDEX> is the sequence from top by listing the DHCP reservation table with the command "SHOW DHCP RESERVE" |
| DELETE FILTER <INDEX> | Delete an IP packet filtering rule. You may obtain the <INDEX> by listing the defined IP filtering rule with the command "SHOW FILTER" |

## **RESET** Command

| **SYNTAX** | **DESCRIPTION** |
|---|---|
| RESET SYSTEM | Reboot the router |
| RESET CONFIG | Reset the configuration back to factory defaults |

## **ADD** Command

| **SYNTAX** | **DESCRIPTION** |
|---|---|
| ADD IP ROUTE <DES> <GATEWAY> | Add an entry to the routing table |
| ADD IP STATIC NAT <PRI IP> <PUB IP> | Add a virtual server based on IP forwarding |
| ADD PORT STATIC NAT <PRI IP> <TCP/UDP> <FROM PORT> <TO PORT> "<RULE NAME>" | Add a virtual server based on Port Forwarding |
| ADD DHCP RESERVE <PRIV IP> "<HOST NAME>" <MAC ADDR> | Add a DHCP reservation |
| ADD FILTER | Add a IP packet filtering rule |

## **ENABLE** Command

| **SYNTAX** | **DESCRIPTION** |
|---|---|
| ENABLE RIP <VERSION> | Enable RIP version 1 or 2 |
| ENABLE NAT | Enable Network Address Translator |
| ENABLE DHCP SERVER | Enable DHCP server |

## **DISABLE** Command

| **SYNTAX** | **DESCRIPTION** |
|---|---|
| DISABLE RIP | Disable RIP |
| DISABLE NAT | Disable Network Address Translator |
| DISABLE DHCP SERVER | Disable DHCP server |

## **SAVE** Command

| **SYNTAX** | **DESCRIPTION** |
|---|---|
| SAVE CONFIG | Save the changes in configuration to the router's flash ROM |

## **DISCONNECT** Command

| **SYNTAX** | **DESCRIPTION** |
|---|---|
| DISCONNECT TELNET SESSION | Disconnect from the TELNET console management |

## **EDIT** Command

| **SYNTAX** | **DESCRIPTION** |
|---|---|
| EDIT FILTER <INDEX> | Edit a defined IP packet filtering rule |

# Appendix B     ISP-Specific Notes

### B.1    Singapore SingNet Broadband

WAN Type:            PPP over Ethernet (PPPoE)
Username Format:    <username>@singnet

### B.2    Singapore Pacific Internet Broadband

WAN Type:            PPP over Ethernet (PPPoE)
Username Format:    <username>@pacific.net.sg

### B.3    Germany T-DSL & T-Online

WAN Type:            PPP over Ethernet (PPPoE)
Username Format:    <Connection ID><T-Online Number>#0001@t-online.de

> **NOTE**
>
> **NOTE**
> The <Connection ID> and <T-Online Number> are provided by German Telecom.

### B.4    Australia Optus@Home

WAN Type:            Dynamic IP
DHCP Client ID:    Set as Router's Identity

# Appendix C    Alternative Method for Configuring NetPassage 15-C

## C.1    TCP/IP Configuration of the Computers

Compex NetPassage 15-C is designed with a built-in DHCP server. You may manually configure the TCP/IP settings of your computers, or simply configure them to dynamically obtain IP address from the DHCP server. If you are not an expert user, you are advised to configure your computers to dynamically obtain IP addresses from the built-in DHCP server of NetPassage 15-C.

Before proceeding, please take note of the following default settings of NetPassage 15-C:

| | |
|---|---|
| **IP (LAN):** | **192.168.168.1** |
| **Subnet Mask:** | **255.255.255.0** |
| **DHCP Server:** | **Enabled** |

## C.2    Configuring your Computer to Dynamically Obtain IP Address

To configure your computers to dynamically obtain IP address, gateway and DNS information from NetPassage 15-C, perform the following actions:

**For Microsoft Windows 95/98/ME**

1.  Open the **Control Panel** from the Start menu
2.  Double-click on the **Network** icon, the network configuration window shall be displayed, as shown in Figure C.2-1.

Please ensure that the TCP/IP protocol is installed and bind to the network adapter.
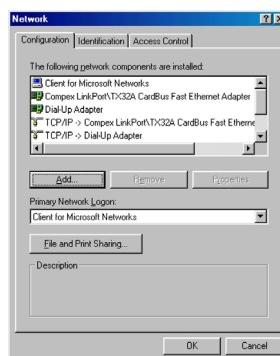


**Figure C.2-1
Network Configuration Window**

3.  Double-click on the TCP/IP that is bound to your network adapter, the TCP/IP configuration window shall be displayed, as shown in Figure C.2-2.

Press on the **Obtain an IP address automatically** radio button and press the **OK** button.
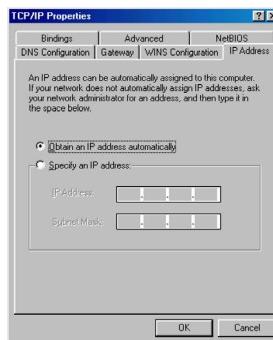


**Figure C.2-2**
**Network Configuration Window**

4. Press the **OK** button again to close the network configuration window. The Microsoft Windows will then prompt you to restart the computer. Press the **OK** button to reboot.

When the Microsoft Windows restarts, NetPassage 15-C will assign an IP address, Subnet Mask and Gateway information to the computer.

### For Microsoft Windows 2000/XP

1. Open the **Control Panel** from the Start menu
2. Double-click on the **Network Connections** icon.
3. Double-click on the network icon that you will be using to connect to NetPassage 15-C for configuration, the network configuration window shall be displayed as shown in Figure C.2-3.

Please ensure that the correct network adapter is selected.
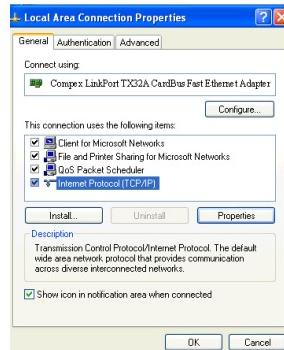


**Figure C.2-3**
**Network Configuration Window**

4. Double-click on the TCP/IP connection, the TCP/IP configuration window shall be displayed, as shown in Figure C.2-4.

Press on the **Obtain an IP address automatically** radio button and press the **OK** button.
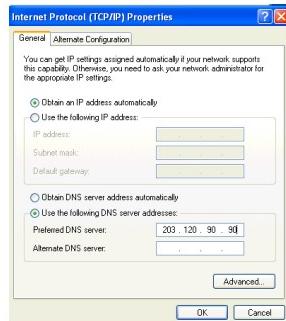


**Figure C.2-4**
**Network Configuration Window**

5. Press the **OK** button again to close the network configuration window. The new network configuration will be registered on your network card.

### C.3 Configuring your Computer with Static IP Address

If you have chosen to configure your computer with Static IP address, please take note of the following default settings on NetPassage 15-C.

| | |
|---|---|
| **IP (LAN):** | **192.168.168.1** |
| **Netmask:** | **255.255.255.0** |

To log on to the Web-based Configuration Interface of NetPassage 15-C and to surf the Internet, you need to configure your computer with the following network settings:

| | |
|---|---|
| **IP:** | **192.168.168.X** |
| **Subnet Mask:** | **255.255.255.0** |
| **Gateway:** | **192.168.168.1** |
| **DNS Server:** | **<IP address of DNS server>** |

**X** is any integer from 2 to 254, and you cannot configure more than one computer with the same IP address.
**<IP address of DNS server>** is the IP address of a DNS server. This information is usually provided by your broadband Internet service provider.

| | |
|---|---|
| **NOTE** | **NOTE**<br>NetPassage 15-C is pre-configured with a subnet of 192.168.168.0. If you wish to configure your network with another subnet, you may do so after logging on to the configuration interface of NetPassage 15-C. |

**For Microsoft Windows 95/98/ME**

1. Open the **Control Panel** from the Start menu

2. Double-click on the **Network** icon, the network configuration window shall be displayed, as shown in Figure C.3-1.
3. Double-click on the TCP/IP that is bound to your network adapter, the TCP/IP configuration window shall be displayed, as shown in Figure C.3-1.

Type in the **IP Address** and **Subnet Mask** of 192.168.168.X and 255.255.255.0 respectively.
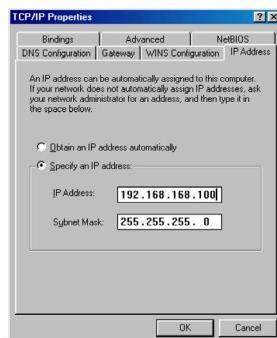


**Figure C.3-1 Network Configuration Window**

4. Select **Gateway** from the menu and the gateway configuration page shall be displayed, as shown in Figure C.3-2.

Type in the **New gateway** as 192.168.168.1 and press the **Add** button.



**Figure C.3-2 Gateway Configuration Window**

5. Select **DNS Configuration** from the menu and the DNS configuration page shall be displayed, as shown in Figure C.3-3.

Select the **Enable DNS** button. Type in a preferred name as the **Host**. Type in the IP address of your DNS server in the **DNS Server Search Order** field and press the **Add** button. Press the **OK** button to close this window.
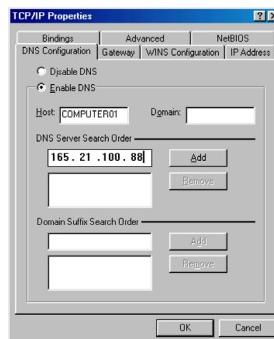


**Figure C.3-3
DNS Configuration
Window**

**NOTE**

**NOTE**
You must not configure more than one computer with the same host name. This creates conflict in the network.

**NOTE**

**NOTE**
The IP address of your DNS Server should be provided by your ISP. If you are still not sure about it, please contact your ISP.

6.  Press the **OK** button again to close the network configuration window. The Microsoft Windows will then prompt you to restart the computer. Press the **OK** button to reboot.

**For Microsoft Windows 2000/XP**

1.  Open the **Control Panel** from the Start menu
2.  Double-click on the **Network Connections** icon.
3.  Double-click on the network icon that you will be using to connect to NetPassage 15-C for configuration, the network configuration window shall be displayed as shown in Figure C.3-4.

Please ensure that the correct network adapter is selected.
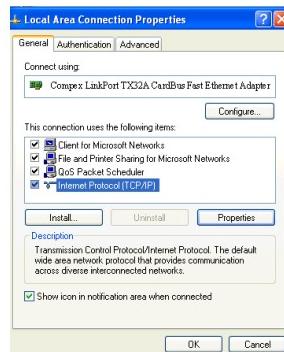


**Figure C.3-4
Network Configuration
Window**

4. Double-click on the TCP/IP connection, the TCP/IP configuration window shall be displayed, as shown in Figure C.3-5.

Type in the **IP Address** and **Subnet Mask** of 192.168.168.X and 255.255.255.0 espectively. Type in the **Default gateway** as 192.168.168.1. Type in the IP address of your DNS server in the **Preferred DNS Server** field.
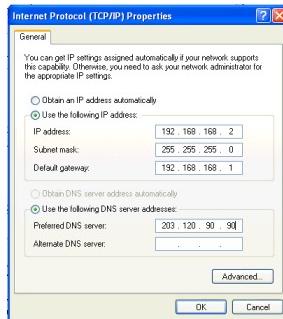


**Figure C.3-5
Network Configuration Window**

5. Press the **OK** button again to close the network configuration window. The new network configuration will be registered on your network card.

## C.4 Connecting to the Configuration Interface

Compex NetPassage 15-C is integrated with an embedded HTTP Server to provide a user-friendly web-based configuration interface. Alternatively, you may also connect to the Command Console of NetPassage 15-C via a TELNET session or a direct serial connection.

This section assumes that the IP address of your NetPassage 15-C has not been changed. It is still the default IP of **192.168.168.1**.

This section also assumes that the TCP/IP settings of your computer have been configured properly. To make sure that the TCP/IP of your computer has been configured properly, perform the following command at the DOS prompt:

**C:\WINDOWS\PING 192.168.168.1**

If you receive replies from the above command, it indicates that your computer has been properly configured with TCP/IP.

### C.5    Web-based Configuration Interface

To connect to the Web-based Configuration Interface of NetPassage 15-C, all you need is a web browser. The requirement of the web browser is stated below:

| | |
|---|---|
| **Web Browser:** | Netscape Navigator 4.0 & above |
| | or Internet Explorer 4.0 & above |
| **JAVA:** | Enabled |
| **Proxy Settings:** | Cleared |
| **Proxy Auto Discovery:** | Disabled |

#### Connecting to Web-based Configuration Interface

1.    Launch the Internet Explorer or Netscape Navigator
2.    Open the URL using the default IP of NetPassage 15-C. Eg. Type in **http://192.168.168.1** in the **Address** field of Internet Explorer.
3.    The logon page will then be displayed, as shown in Figure 2.3.1-1. The default password of NetPassage 15-C is "password" which is pre-filled in the password text box. Press the **Log On!** button to log in to NetPassage 15-C's Configuration Interface.



**Remote Access Router/Bridge Manager**

Please enter your password:

[**********]    [ Log On ! ]

(Forget your password? - see the User's Guide for instructions.)
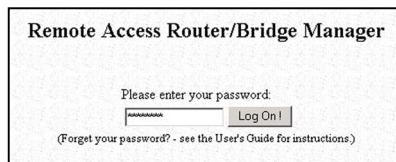
**Figure C.5-1
Logon Page**

> **NOTE**
>
> **NOTE**
> If the proxy settings of your web browser is not cleared, you will not be able to connect to NetPassage 15-C's web-based configuration interface.

### C.6    TELNET Command Console

Alternatively, the user may connect to the Command Console of NetPassage 15-C via a TELNET session to the default IP of NetPassage 15-C, **192.168.168.1**. This section uses Microsoft TELNET command for instruction. You may use any TELNET client.

#### Connecting to NetPassage 15-C's Command Console via TELNET

1.    Connect to NetPassage 15-C's Command Console with the following command at DOS prompt. The TELNET application will then be launched and connect to NetPassage 15-C.

**C:\WINDOWS\TELNET 192.168.168.1**

2.  At the login prompt, type in "password" (default password) and press the <ENTER> key, as shown in Figure C.6-1. You will then login to the Command Console of NetPassage 15-C.



**Figure C.6-1
Command Console
Login**

| NOTE | **NOTE**<br>Please refer to Appendix A for the list of commands available at the console. |
|------|------|

# Appendix D        Frequently Asked Questions

**D.1**   **Based on which firmware release was this User's Manual written?**
       This User's Manual is written based on NetPassage 15-C firmware release 2.79 build
       1201.

**D.2**   **I have forgotten the IP address that I have set on my NetPassage 15-C, what should
       I do?**
       You may run the utility uConfig.exe located in the Product CD, it will open a Graphic
       User Interface (GUI) that allows the user to select the NetPassage for configuration.

**D.3**   **The "DIAG" LED on my NetPassage 15-C is flashing rapidly, and I cannot connect
       to the web-based configuration interface, why?**
       The rapid flashing of the "DIAG" LED indicates that the router firmware has been
       corrupted. The firmware recovery utility may be found on the Product CD.

**D.4**   **I have configured NetPassage 15-C with my broadband Internet account. I am able
       to PING the ISP gateway IP address. However, I cannot surf the Internet.**
       If you have not configured the DHCP server to configure the DNS information of the
       computers in the network, you need to manually configure the DNS entry on every
       computer. Without the DNS server, your will not be able to resolve domain name (eg
       www.compex.com.sg) into IP address. Refer to Section 2.2 on how to configure for
       DNS server on the computer.

**D.5**   **I am using Cable Internet and have tried to configure NetPassage 15-C to work
       with it. I just couldn't get the ISP to release an IP to me. When I connected my
       computer directly to the Cable modem, I am able to surf the Internet.**
       Your ISP has probably logged the MAC address of your computer. You should clone the
       MAC address of your computer to NetPassage 15-C. Refer to paragraph titled **Cloning
       MAC Address to NetPassage 15-C** under Section 3.2

**D.6**   **I have forgotten the IP address and the log in password. Is there  any possibility to
       reset NetPassage 15-C to factory's default.**
       You can perform a hardware reset by pressing the reset button located on the side panel
       of NetPassage 15-C.